

REMARKS

In the patent application, claims 1-39 are pending.

In the office action, claims 1-10, 25-27 and 32-39 are rejected, and claims 11-24, 28-31 are objected to but would be allowable if rewritten in an independent form.

Applicant has amended claims 4, 10, 18 - 24, 27, 28, 30, 32 and 38, and canceled claims 1-3, 25, 26, 33-35 and 39.

Claim 4 has been amended to include the limitations of claims 1 and 3. Claims 10, 18 and 19 have been amended to be dependent from claim 4, instead of claim 1. Claims 11, 20, 21, 22, 23 and 24, 27 have been amended to change some wording. Claims 28 and 30 have been amended to be dependent from claims 27, instead of claim 25. Claim 32 has been amended to include the limitations of claims 33 and 35. Claim 38 has been amended to include the limitation of claim 35.

No new matter has been introduced.

Claims 1-2, 25-26, 32-34 and 36-39 are rejected under 102(e) as being anticipated by *Rousu* (U.S. Patent Application Publication No. 2003/0114188). In rejecting these claims, the Examiner states that *Rousu* discloses a transceiver as claimed. In particular, *Rousu* discloses a transceiver having two antenna, one for WCDMA 1900MHz Rx and Tx, and one for GSM 1900 MHz Rx and Tx (paragraphs [0030]-[00330]).

Applicant has canceled claims 1, 2, 25, 26, 33, 34, 35 and 39.

Applicant has amended claims 32 and 38 to include the limitation that the first frequency band substantially covers a frequency range of 1805MHz to 1880MHz and the second frequency band substantially covers a frequency range of 1850MHz to 1910MHz. The first and second frequency ranges have been claimed in claim 35.

Claims 3-10, 27 and 35 are rejected under 103(a) as being unpatentable over *Rousu*, in view of *Klemetti et al.* (U.S. Patent Application Publication No. 2004/0162107, hereafter referred to as *Klemetti*)

Applicant has canceled claim 3.

In rejecting claim 4, the Examiner states that *Rousu* discloses the transceiver front-end of claim 1, as well as suggesting the use of other frequency bands, but does not expressly disclose 1850-1910 MHz and 1805-1880MHz. The Examiner points to *Klemetti* for disclosing these frequency bands (paragraphs [0038-0041]) and for further disclosing that the first signal path is for transmitting and the second signal path is for receiving (Figure 5; paragraphs [0038-0040]).

It is respectfully submitted that, in the claimed invention, the signal path for 2GHz GSM Tx (1850-1910MHz) is connected to one antenna and the signal path for 2GHz GSM Rx (1805-1880MHz) is connected to another antenna. As such, no switches are needed to for Tx-Rx switching. This would reduce the losses in the Rx.

In paragraphs [0030] to [0033], *Rousu* describes the transceiver as shown in Figure 6a, 6b and 3. The antennas 1 and 2 in the transceiver as shown in Figure 6a and 6b are connected to a common RF ASIC 4, 5. In Figure 3, two separate ASICs are used. In these embodiments, the antenna 1 and antenna 2 are connected to a control module 10 for detuning one of the antennas. *Rousu* aims at preventing a circuit resonant in the common band of frequencies in the transmitter connected to one antenna while the transmitter connected to another adjacent antenna is transmitting a signal (paragraph [0010]). In particular, *Rousu* wants to avoid the circuit resonance between the WCDMA Tx (1920-1980MHz) and GSM Tx (1850-1910 MHz) when undesired energy from the transmission signal in one antenna is coupled to the transmission path of the other antenna in the same mobile station, causing interference (paragraph [0004]). *Rousu* does not disclose or suggest solving the problems when both the 2GHz GSM Tx (1850-1910MHz) path and the 2GHz GSM Rx (1805-1880MHz) path are used in the mobile phone.

In *Klemetti*, antenna 11 covers the frequency range of 1710-1910MHz, antenna 12 covers the frequency range of 1920-1990MHz and antenna 13 covers the frequency range of 2110-2170MHz (paragraph [0040]). As shown in Figure 2, the 2GHz GSM Rx (1805-1880MHz) path is connected to antenna 11 through switch 62. The 2GHz GSM Tx (1850-1910MHz) path is connected to both switches 62 and 63. However, because the use of filters 43 and 46, the 2GHz GSM Tx (1850-1910MHz) signals are isolated from antenna 12. In effect, the 2GHz GSM Tx (1850-1910MHz) path is only connected to antenna 11 through switch 62. When the terminal operates in a GSM 1800 system, antenna 11 is used for the reception of the (1805-1880MHz) signal. When the terminal operates in a GSM 1900 system, antenna 11 is used for the

transmission of the (1850-1910MHz) while antenna 12 is used for the reception of the (1930-1990MHz) signal (paragraph [0040]). Thus, in *Klemetti*, both the 2GHz GSM Tx (1850-1910MHz) path and 2GHz GSM Rx (1805-1880MHz) path are connected to the same antenna 11.

In contrast, in claim 4, the signal path for first frequency range (1850-1910MHz) is connected to one antenna and the signal path for the second frequency range (1805-1880MHz) is connected to another antenna.

For the above reasons, claim 4 is distinguishable over the cited *Rousu* and *Klemetti* references.


For the same reasons, claims 27, 32 and 38 are also distinguishable over the cited *Rousu* and *Klemetti* references.

As for claims 5-10, 36 and 37, they are dependent from claims 4 and 32 and recite features not recited in claims 4 and 32. For reasons regarding claims 4 and 32 above, it is respectfully submitted that claims 5-10, 36 and 37 are also distinguishable over the cited *Rousu* and *Klemetti* references.

CONCLUSION

Claims 4-24, 27-32 and 36-38 are allowable. Early allowance of all pending claims is earnestly solicited.

Respectfully submitted,



Kenneth Q. Lao
Attorney for the Applicant
Registration No. 40,061

WARE, FRESSOLA, VAN DER SLUYS
& ADOLPHSON LLP
Bradford Green, Building Five
755 Main Street, P.O. Box 224
Monroe, CT 06468
Telephone: (203) 261-1234
Facsimile: (203) 261-5676
USPTO Customer No. 004955